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The Key Vulnerabilities and Risks of Climate Change

Fifth Annual California Climate Change Research Conference

September 10, 2008

2:25-2:35pm

Sacramento, California

***[Website for more info: climatechange.net.]**







APR. 2, 2007
10:20

2. English
3. Français
4. Arabiy
5. Russkiy
6. Zhongwen
8. Español



OUTLINE FOR THE IPCC WORKING GROUP II CONTRIBUTION TO
THE FOURTH ASSESSMENT REPORT
CLIMATE CHANGE 2007: IMPACTS, ADAPTATION AND VULNERABILITY
Agreed by Plenary XXI, Vienna, 2004

19. Assessing Key Vulnerabilities and the Risk from Climate Change

- Methods and concepts: issues relating to Article 2 of the UNFCCC; reasons for concern; measuring damage; identifying key impacts and vulnerabilities, and their risk of occurrence
- Approaches to determining levels of climate change for key impacts
- Assessing key global risks
- Assessing key risks for regions and sectors
- Assessment of response strategies to avoid occurrence: stabilisation scenarios; mitigation/adaptation strategies; avoiding irreversibilities; role of sustainable development; treatment of uncertainty
- Uncertainties, unknowns, priorities for research

IPCC AR4 WG 2 Chapter 19:

Seven criteria for assessing and defining “key vulnerabilities^{*}”:

1. magnitude
2. distribution
3. timing
4. persistence and reversibility
5. likelihood and confidence
6. potential for adaptation
7. “importance” of the vulnerable system

^{*}No single metric can adequately capture the diversity of key vulnerabilities, nor determine their ranking.

Adaptation and Mitigation are
Complements, not Trade-offs!

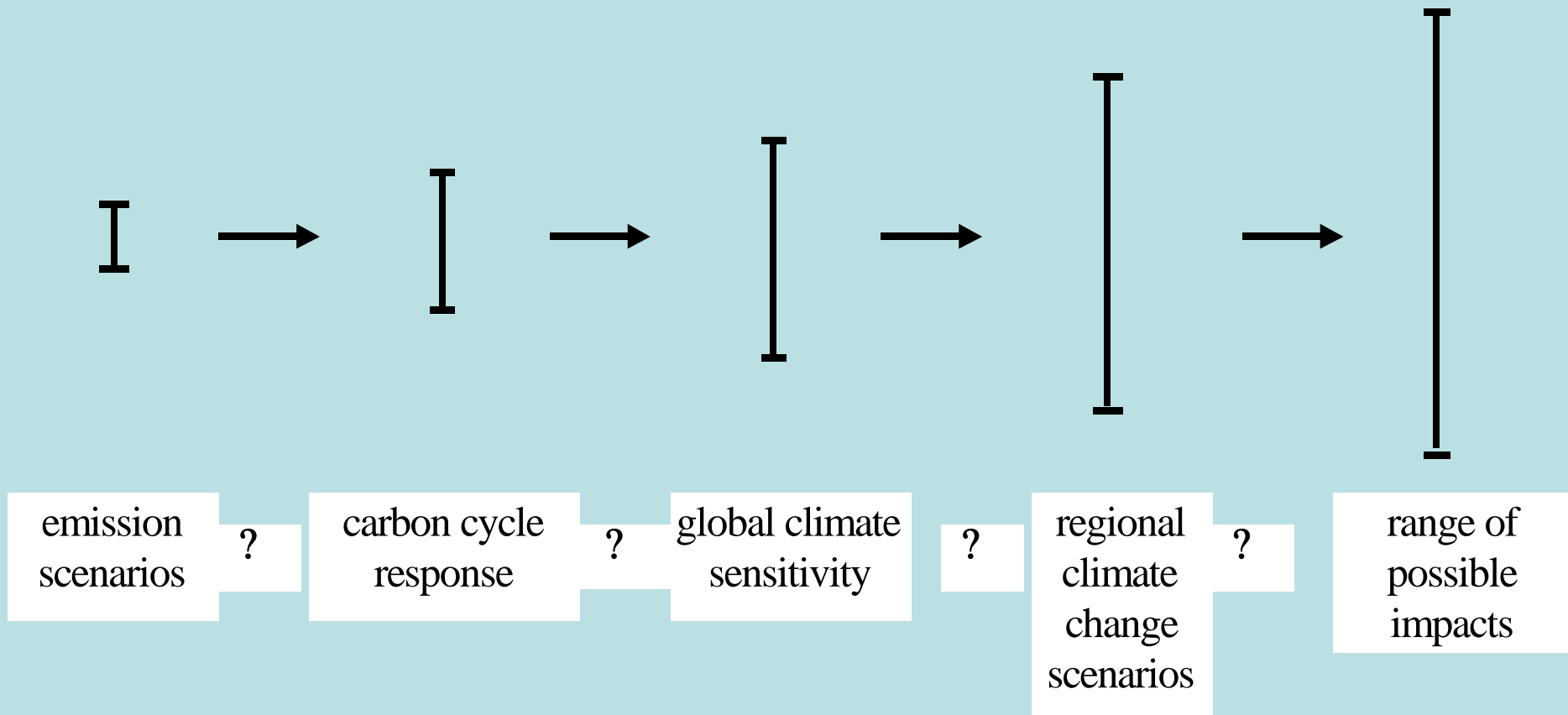
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- **Adaptation** to unavoidable climate changes

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- **Adaptation** to unavoidable climate changes
- **Mitigation** of changes that are too difficult to adapt to

Top → Down →



Cascade of Uncertainties.

Projected CO₂ concentrations using IPCC storylines

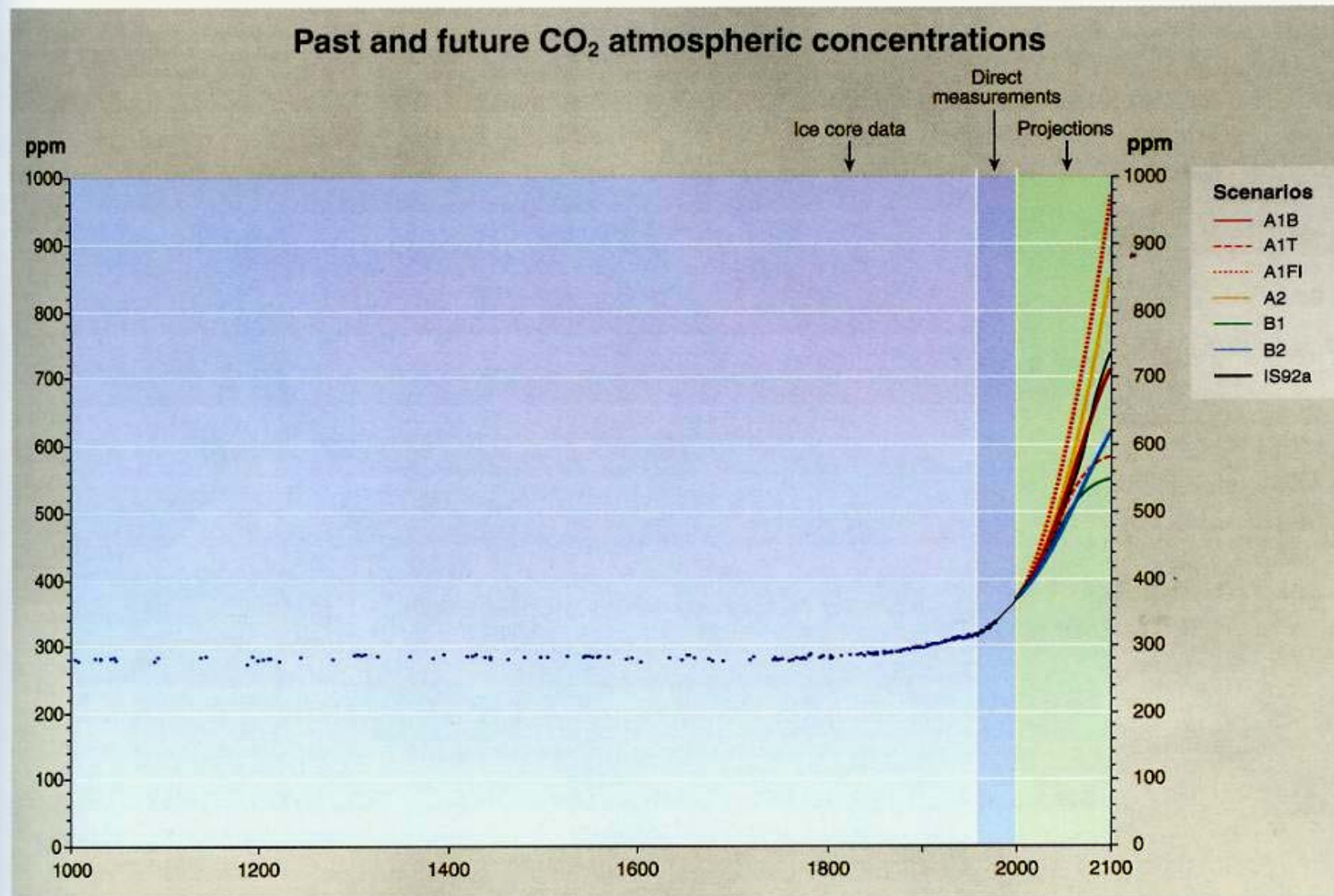


Figure SPM-10a: Atmospheric CO₂ concentration from year 1000 to year 2000 from ice core data and from direct atmospheric measurements over the past few decades. Projections of CO₂ concentrations for the period 2000 to 2100 are based on the six illustrative SRES scenarios and IS92a (for comparison with the SAR).



Q9 Figure 9-1a

Need New Paradigm:

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Not just **top down**—linear cascade

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Not just **top down**—linear cascade

but **bottom up**: regional, sectoral
and groups' vulnerability analysis
mapped to top down analyses

Questions?

Comments??

